



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/596,266

06/07/2006

Hans Peter Weitzel

WAS0768PUSA

4695

22045 7590 08/09/2011

BROOKS KUSHMAN P.C.
1000 TOWN CENTER
TWENTY-SECOND FLOOR
SOUTHFIELD, MI 48075

EXAMINER

KOLLIAS, ALEXANDER C

ART UNIT

PAPER NUMBER

1725

MAIL DATE

DELIVERY MODE

08/09/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/596,266
Filing Date: June 07, 2006
Appellant(s): WEITZEL ET AL.

William G. Conger
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/16/2011 appealing from the Office action mailed 12/21/2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claim 1-33 are cancelled.

Claims 34-51 are pending and rejected

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN

Art Unit: 1725

REJECTIONS.” New grounds of rejection (if any) are provided under the subheading “NEW GROUNDS OF REJECTION.”

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant’s brief.

(8) Evidence Relied Upon

2003/0018121	Weitzel et al	1-2003
7,070,795	Botts et al	7-2006
6,369,153	Guerin et al	4-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claim 43 is rejected under 35 U.S.C. 102(b) as being anticipated by Weitzel et al (2003/0018121).

Regarding claim 43, Weitzel discloses a process wherein the additives, including binders such as carbonates, lime gypsum and fungicides are mixed with a re-dispersible polymer powder in dry form (Page 4 [0032] -[0038]). The water redispersible polymer is obtained by spray drying (Page 3 [0023]). it is noted that in the process disclosed by the reference, the addition and mixing of the fungicide and redispersible polymer meets the limitations of admixing a polymer powder composition with a solid biologically active additives recited in the present claims.

Art Unit: 1725

2. Claim 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weitzel et al (2003/0018121) in view of Botts et al (US 7,070,795).

The discussion with respect to Weitzel et al as set forth in Paragraph 5 above is incorporated here by reference.

Regarding claim 44, Weitzel teaches all the claim limitations as set forth above. The reference teaches all the claim limitations as set forth above. However, Weitzel et al does not disclose a process wherein water re-dispersible polymer powder composition is prepared by spray drying an aqueous polymer dispersion together with a biocide.

Botts et al discloses active ingredients such as fungicides or insecticides which are entrapped in a polymeric matrix to form particles. The particles when applied release active ingredients at a rate to provide effective amounts of the active ingredients over a period of time (Abstract, Column 7, Lines 36-60, Column 8, Lines 16-27, Column 12, Lines 30-55, Column 15, Lines 28-64). The reference discloses method of producing the matrix particles that comprise such as spray drying so that the active ingredient is distributed uniformly throughout the polymer matrix (Page 18, Lines 5-12).

Given that Weitzel et al discloses a composition comprising water re-dispersible polymers and biocidal compounds and processes to spray drying the re-dispersible polymer, in light of the particular advantages provided by the use and control of the spray drying a polymer matrix with active ingredients as taught by Botts et al, it would therefore have been obvious to one of ordinary skill in the art to include such spray dried polymer and method of

Art Unit: 1725

production in the composition and methods disclosed by Weitzel et al in order to obtain polymer particles which have active compounds distributed uniformly throughout.

Regarding claims 45-46, the combined disclosure of Weitzel and Botts disclose all the claim limitations as set forth above. As discussed above, Weitzel discloses a process of mixing biocides with a curable construction products, additionally, it is noted that the reference discloses biocides such as isothiazolinones ,i.e. N-octylisothiazoline, dichloro-N-octylisothiazolinone, etc and benzimidazoles such as 2-(methoxycarbonylamino)-benzimidazole (Page 3 [0028]).

3. Claims 49, 34-42, 47-48, and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerin et al (US 6,369,153) in view of Weitzel et al (2003/0018121).

Regarding claim 49, Guerin et al discloses a curable mineral construction product, (plaster, mortars, etc) comprising a water-redispersible polymer powder composition (Column 1, Lines 63-67, Column 8 Lines 64-67, Column 9 Lines 1-4). The water redispersible polymer composition consists of biocides and two emulsifiers, i.e. surfactants (disclosed a main surfactant and a water soluble compound which as be a surfactant as well, Abstract, Column 6, lines 57-658 and Column 9, Lines 5-12)

The reference discloses all the claim limitations as set forth above. While the reference discloses the use of biocides in the redispersible polymer composition, the reference does not disclose that the biocide is a fungicide present in the amount from 0.001 to 0.5 wt %, based on the amount of polymer in the composition.

Art Unit: 1725

Weitzel et al discloses a compositions comprising a water-redispersible polymer powder and biocides, i.e., fungicides (Abstract, Page 43 [0028], Page 1 [0009]). Fungicides comprise 0.001 to 0.2 wt % of the composition. Based on the discloses amount of pigment (1 to 30 wt % - Page 3 [0029]), filler (5 to 80 wt % Page 3 [0030]), and fungicide, it is determined that redispersible polymer powder comprising 18.99 to 64.8 wt % of the composition. Hence, it is determined that fungicide is 0.005 to 0.3 wt % based on the mount of polymer.

Regarding the amount of fungicide disclosed by Weitzel, it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Regarding claim 34, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. Additionally, Guerin et al discloses that the water-redispersible polymer powder is prepared by spray drying (Column 8 Liens 27-33). Further, the reference discloses that in the process of preparing the water-redispersible polymer during emulsion polymerization, standard additives can be added (Column 8, Lines 10-11). Given that the reference discloses the use of additives such as biocides, it is clear that the biocide may be added during emulsion polymerization following by spray drying the combination of biocides and polymer together as presently claimed.

Regarding claim 35, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. Additionally, Guerin et al discloses that the water-redispersible polymer powder is prepared by spray drying (Column 8 Lines 27-33). Given that the reference discloses the use of additives such as biocides, it is clear that the biocide may be added through admixing to the spray dried polymer as presently claimed.

Regarding claim 36, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. Additionally, Guerin et al discloses that the polymer composition is added to mixtures of inorganic hydraulic binder and cements (Column 8, Lines 64-67 and Column 9 Lines 1-4). Given the disclosure of inorganic hydraulic binder and adhesive cements, it is clear that the curable mineral construction product disclosed by the reference comprises a hydraulically settable mineral binder as presently claimed.

Regarding claim 37, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. Additionally, Guerin et al discloses that the polymer composition is added to mixtures of inorganic hydraulic binder (Column 8, Lines 64-67). Given the disclosure of inorganic hydraulic binder and adhesive cements, it is clear that the curable mineral construction product is cement-free as presently claimed.

Regarding claim 38, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. As discussed above, while Guerin et al discloses the use of

Art Unit: 1725

biocides, the reference does not disclose that the biocide consists of isothiazolinone or a benzimidazole.

Weitzel et al discloses a compositions comprising a water-redispersible polymer powder and biocides, i.e., fungicides (Abstract, Page 43 [0028], Page 1 [0009]). Fungicides consist of compounds such as isothiazolinones, and benzimidazoles which are added to the composition to counter infestation of bacteria yeasts and fungi (Page 3 [0028])

Given that both Guerin et al and Weitzel are drawn to compositions containing redispersible polymers and biocidal active compounds, and, given that Guerin et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the isothiazolinones, and benzimidazoles as taught by Weitzel, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Guerin et al with a reasonable expectation of success.

Regarding claim 39, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. As discussed above, while Guerin et al discloses the use of biocides, the reference does not disclose that the biocide consists of isothiazolinone or a benzimidazole.

Weitzel et al discloses a compositions comprising a water-redispersible polymer powder and biocides, i.e., fungicides (Abstract, Page 43 [0028], Page 1 [0009]). Fungicides consist of compounds such as N-octylisothiazolinone and methylisothiazolinone which are added to the composition to counter infestation of bacteria yeasts and fungi (Page 3 [0028])

Given that both Guerin et al and Weitzel are drawn to compositions containing redispersible polymers and biocidal active compounds, and, given that Guerin et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the N-octylisothiazolinone and methylisothiazolinone as taught by Weitzel, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Guerin et al with a reasonable expectation of success.

Regarding claim 40, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. As discussed above, while Guerin et al discloses the use of biocides, the reference does not disclose that the biocide consists of isothiazolinone or a benzimidazole.

Weitzel et al discloses a compositions comprising a water-redispersible polymer powder and biocides, i.e., fungicides (Abstract, Page 43 [0028], Page 1 [0009]). Fungicides consist of compounds such as N-octylisothiazolinone and methylisothiazolinone which are added to the composition to counter infestation of bacteria yeasts and fungi (Page 3 [0028])

Given that both Guerin et al and Weitzel are drawn to compositions containing redispersible polymers and biocidal active compounds, and, given that Guerin et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the N-octylisothiazolinone and methylisothiazolinone as taught by Weitzel, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Guerin et al with a reasonable expectation of success.

Art Unit: 1725

Regarding claim 41, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. As discussed above, Guerin et al discloses a water-redispersible polymer. Additionally, the reference discloses that the polymer is film-forming polymer and comprises monomers such as vinyl esters, methacrylic esters, i.e., methacrylates, vinyl aromatic monomers (Column 2, Lines 56-65).

Regarding claim 42, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. As discussed above, Guerin et al discloses a water-redispersible polymer. Additionally, the reference discloses that the polymer is film-forming polymer and comprises monomers such as vinyl aromatic monomers and acrylates such as methyl, ethyl, n-butyl acrylates (Column 2, Lines 56-65 and Column 3 Lines 1-5)

Regarding claim 47, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. As discussed above, Guerin et al discloses a water-redispersible polymer composition utilized in a mineral building material. Additionally, the reference discloses a process of preparing such a composition, i.e. Mixing the re-dispersible polymer composition with inorganic hydraulic binder, or cements, and water (Column 8, Lines 64-67 and Column 9, Lines 1-5 and Example 1 Lines 20-50). Further, the reference discloses that in the process of preparing the water-redispersible polymer during emulsion polymerization, standard additives can be added (Column 8, Lines 10-11). Given that the reference discloses the use of additives such as biocides, it is clear that the redispersible polymer is a compositions containing a biocidal additive.

The reference discloses all the claim limitations as set forth above. While the reference discloses the use of biocides in the redispersible polymer composition, the reference does not disclose that the biocide is a fungicide present in the amount from 0.001 to 0.5 wt %, based on the amount of polymer in the composition.

Weitzel et al discloses a composition comprising a water-redispersible polymer powder and biocides, i.e., fungicides (Abstract, Page 43 [0028], Page 1 [0009]). Fungicides comprise 0.001 to 0.2 wt % of the composition. Based on the disclosed amount of pigment (1 to 30 wt % - Page 3 [0029]), filler (5 to 80 wt % Page 3 [0030]), and fungicide, it is determined that redispersible polymer powder comprising 18.99 to 64.8 wt % of the composition. Hence, it is determined that fungicide is 0.005 to 0.3 wt % based on the amount of polymer.

Regarding the amount of fungicide disclosed by Weitzel, it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir. 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Regarding claim 48, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. Additionally, Guerin et al discloses that the water-redispersible polymer powder is prepared by spray drying (Column 8 Lines 27-33). Further, the reference discloses that in the process of preparing the water-redispersible polymer during

Art Unit: 1725

emulsion polymerization, standard additives can be added (Column 8, Lines 10-11). Given that the reference discloses the use of additives such as biocides, it is clear that the biocide may be added during emulsion polymerization following by spray drying the combination of biocides and polymer together as presently claimed.

Weitzel et al discloses a process and a composition comprising a water-redispersible polymer powder and biocides, i.e., fungicides (Abstract, Page 43 [0028], and Page 1 [0009]). Fungicides consist of compounds such as N-octylisothiazolinone and methylisothiazolinone which are added to the composition to counter infestation of bacteria yeasts and fungi (Page 3 [0028])

Given that both Guerin et al and Weitzel are drawn to process of forming compositions which contain redispersible polymers and biocidal active compounds, and, given that Guerin et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the N-octylisothiazolinone and methylisothiazolinone as taught by Weitzel, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the process disclosed by Guerin et al with a reasonable expectation of success.

Regarding claim 50, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. As discussed above, Guerin et al discloses a water-redispersible polymer formed by polymerizing monomers (Column 2 Lines 56-65 and Column 3 Lines 23-27). Additionally, the reference discloses that the polymer is film-forming copolymer and comprises monomers such as vinyl acetate, vinyl versatate, and ethylene (Column 3 Lines 5-19).

While Guerin et al discloses the use of biocides, the reference does not disclose that the biocide consists of N-octylisothiazolinone.

Weitzel et al discloses a compositions comprising a water-redispersible polymer powder and biocides, i.e., fungicides (Abstract, Page 43 [0028], Page 1 [0009]). Fungicides consist of compounds such as N-octylisothiazolinone which is added to the composition to counter infestation of bacteria yeasts and fungi (Page 3 [0028])

Given that both Guerin et al and Weitzel are drawn to compositions containing redispersible polymers and biocidal active compounds, and, given that Guerin et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the N-octylisothiazolinone as taught by Weitzel, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Guerin et al with a reasonable expectation of success.

Regarding claim 51, the combined disclosures of Guerin et al and Weitzel teach all the claim limitations as set forth above. As discussed above, Guerin et al discloses a water-redispersible polymer formed by polymerizing monomers (Column 2 Lines 56-65 and Column 3 Lines 23-27). Additionally, the reference discloses that the polymer is film-forming copolymer and comprises monomers such as vinyl acetate, vinyl versatate, and ethylene (Column 3 Lines 5-19).

While Guerin et al discloses the use of biocides, the reference does not disclose that the biocide consists of N-octylisothiazolinone.

Art Unit: 1725

Weitzel et al discloses a compositions comprising a water-redispersible polymer powder and biocides, i.e., fungicides (Abstract, Page 43 [0028], Page 1 [0009]). Fungicides consist of compounds such as N-octylisothiazolinone which is added to the composition to counter infestation of bacteria yeasts and fungi (Page 3 [0028])

Given that both Guerin et al and Weitzel are drawn to compositions containing redispersible polymers and biocidal active compounds, and, given that Guerin et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the N-octylisothiazolinone as taught by Weitzel, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Guerin et al with a reasonable expectation of success.

(10) Response to Argument

VII. ARGUMENT

1. Prior to setting responding to Appellant's arguments it is noted that *Cyclodextrin Technology* and *Handbook of Biocide and Preservative Use* referred to by Appellants in the Brief filed on 5/13/2011 have been previously made of record, i.e. the copies of the references were neither furnished by the Appellants nor cited on an IDS. Therefore, as set forth below, the Examiner has not considered these references.

2. Appellants state that if spray drying is carried without a protective colloid, polymer particles coalesce and agglomerate during drying which results in a powder which is not a RDP. It appears that Appellants are attempting to define which his mean by the term RDP. However it is noted that no such definition appears to be disclosed in the present Specification.

Further with respect to Appellants' argument regarding protective colloids as they pertain to processes of preparing RDPs, it is significant to note that the use of a protective colloid is optional in claims 49 and 47. Furthermore claim43, although discloses a process the use of a protective colloid in the process is conspicuous by its absence in the present claims. That is, features upon which Appellant relies (i.e. use of protective colloid in the presently claimed process) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Finally, it is noted that even though protective colloids are not required in the present claims both Guerin et al and Weitzel et al disclose the use of protective colloids. Specifically, Guerin et al discloses the a process of forming a RDP which includes the process of mixing an emulsion of at least one water soluble film-forming polymer and one surfactant. Therefore, in light of disclosure in Guerin et al as well as Appellant's own admission, the polymer composition disclosed by Guerin et al, is necessarily a RDP. With respect to Weitzel et al, as discussed above, the reference discloses a composition containing an RDP. Further it is significant to note that the polymer compositions can be prepared by spray drying on Page 3 [0023] discloses the use of spray drying aids including protective colloids.

To this end, it is noted that Botts is merely utilized to teach the benefits of utilizing spray drying, a processes already disclosed by Weitzel et al, as a process of obtaining controlled release of a biocidal compound. That is, Botts et al discloses active ingredients such as fungicides or insecticides which are entrapped in a polymeric matrix to form particles. The particles when applied release active ingredients at a rate to provide effective amounts of the active ingredients over a period of time. The reference discloses method of producing the matrix particles that comprise such as spray drying so that the active ingredient a distributed uniformly throughout the polymer matrix.

3. Appellant states on Page 8 of the Brief that RDPs of ethylene/vinyl acetate are useful as flexibilizers and adhesion promotes in curable mineral products whereas polymer powers of the same ethylene/vinyl acetate compositions but which are not RPS, wholly fail to produce the same results. However, it is noted that Appellants' argument or statement regarding RDPs and their relevance to the prior art of record is not clear given that both Weitzel et al and Guerin et al disclose compositions and processes of utilizing water redispersible polymers, see for example the abstracts of both references.

4. Appellants state that the word "active" as applied to an "active ingredient" indicates that the active ingredient is neat or at 100 % concentration. However, it is firstly noted that there is no evidence of record that an "active" or "active ingredient" within the purview of the biocidal active is understood by one of ordinary skill in the art as being indicative of a neat compound much less one at 100 % concentration. Secondly, attention is drawn to the instant disclosure, as

Art Unit: 1725

originally filed, which discloses on Page 2 Lines 32-34 that the composition comprises biocidal compounds, i.e. biocides, or biological active additives are bactericides, fungicides and algacides. Other than this disclosure in present Specification, there is neither a specific disclosure nor definition contained within the Specification itself that indicates that Appellants' definition of a active compound is a pure or unmodified compound. Furthermore, it is noted that even though the claims have been amended to recite that the redispersible polymer composition "consists of" a fungicide and a redispersible polymer, there is nothing within the scope of the present claims that excludes the use of biocidal derivatives such as the complexed derivatives disclosed in Weitzel et al. That is the derivatives disclosed in the reference are in biocides.

It is noted as set forth in MPEP 2111.01 I that although claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. In re American Academy of Science Tech Center, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). This means that the words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004),

5. Appellants state that cyclodextrin complexes have no biocidal activity *per se*. However, Appellants' argument is not understood given that Weitzel et al discloses fungicides as being either complexes with cyclodextrin or cyclodextrin derivatives. The reference does not disclose

Art Unit: 1725

fungicides, be they complexed with cyclodextrin or derivatives thereof, as possessing any other functionality. That is, it is clear that both the fungicides complexed with cyclodextrin or cyclodextrin derivative are in fact considered by the prior art reference as being fungicidal or active given that no other functionality, i.e. light stabilizer, antioxidant, pigment, etc, is assigned or recognized by the reference.

6. As evidence of their position that cyclodextrin complexes or biocides have no biocidal activity, Appellants point to the reference *Cyclodextrin Technology* cited Paragraph [0036] of Weitzel et al. However, firstly it is significant to that that this reference has never been provided by Appellants. Secondly, it is noted that it is only in Brief filed on 5/13/2011 that Appellants are addressing this reference as evidence of their position. Thirdly, it should be noted that even though *Cyclodextrin Technology* was not provided, it is significant to note that Paragraph [0036] of Weitzel et al discloses cyclodextrin complexes in the context of processes of preparing such compound and does not disclose that fungicidal/cyclodextrin complexes are inactive. That is, any disclosure in Weitzel et al that such complexes are inactive is conspicuous by its absence.

7. Appellants further point to *Handbook of Biocide and Preservative Use* as evidence of their position that the term active encompasses a neat compound. However, the evidence has not been considered given that the reference pointed by Appellants has not provided. Further it is Secondly, it is noted that it is only in Brief filed on 5/13/2011 that Appellants are addressing this reference as evidence of their position.

Art Unit: 1725

8. Appellants point to Paragraphs [0027]-[0028] of Weitzel as further evidence that the active compound is uncomplexed. Appellants' position is based on the fact that the reference discloses that fungicides are present in an amount of 0.001 to 0.2 wt % of the compositions. That is Appellants' position appears to be that the amount of fungicide, i.e. 0.001 to 0.2 wt % is an indication that the fungicide is the only part of the complex that is active. However, although the reference refers to the active compound in Paragraph [0028] as a fungicide this does not imply that the complex itself is not a fungicide. Further from the disclosure in Paragraph [0028] is not clear that the amounts are drawn to a neat fungicide and not the complexed fungicide. Given that the reference is drawn to a composition comprising fungicides complexed with cyclodextrin, a fair reading of the reference as whole indicates that the amounts disclosed in Paragraph [0028] are drawn to the cyclodextrin/fungicidal complex and not to a neat fungicide.

9. Appellants point to Botts as further evidence of their position that the term active implies a neat or pure compound. However, it is noted that the sections of Botts pointed to by the Appellants is not convincing for the following reasons.

Col. 3 Lines 33-41 and Col. 8 Lines 43-61 of Botts does not exclude fungicidal complexes from being active compounds.

Col. 7 although discloses a definition of "active", it is noted that this is only one definition in one reference and not necessarily a standard definition known to one of ordinary skill in the art. Finally,

Finally, Appellants point to Formulation 1 in Botts as evidence that the term "active" implies a neat or unmodified compound. However, it is noted that the term "active" disclosed in

Art Unit: 1725

the Table for Formulation 1 is within the scope of the definition disclosed in Col. 7 of the reference and is therefore not indicative of anything other than that which is defined by the reference as “active”. That is, Formulation 1 is not indicative of the standard definition of active necessarily known to one of ordinary skill in the art.

10. Furthermore Appellants point to the 37 C.F.R. 1.132 Declaration which states that one of ordinary skill in art understands the term “active” to mean a neat compound. However this is merely a conclusionary statement with no evidence supporting the position that the term “active” encompasses a neat compound such as a fungicide and not a derivative or complex thereof. Further it is noted while it is agreed that the Appellants are one of ordinary skill in the art, this does not mean that one of ordinary skill in the art can impose a definition onto a phrase and claims as being standard in the art without supporting evidence. Finally, it is noted that although Appellants state in the Declaration that the term “consisting of” does not include within its scope cyclodextrin complexes of biocidal active, it is significant to note that there is nothing in the claims that excludes fungicidal complexes.

11. Finally, Appellants argue that the definition presented by Dr. Weitzel is consistent with what those skilled in the art view as a biocidal active and is also consistent with the instant application and that disclosed in Botts. However, it is significant to note that, as discussed above, the instant Specification does not disclose a definition of what is encompassed by the term active.

Art Unit: 1725

A. **Rejection of claim 32 under 35 U.S.C. 102(b) over Weitzel**

12. Appellants argue that Weitzel teaches away from the use of fungicidal actives themselves by requiring the fungicides to be supplied as a cyclodextrin complex. However, firstly it is noted, as discussed above, Weitzel et al does not teach away from the use of active compounds. Rather the reference discloses fungicides as being either complexes with cyclodextrin or cyclodextrin derivatives. The reference does not disclose the fungicides, be they complexed with cyclodextrin or derivatives thereof, as possessing any other functionality other than being fungicidal. That is, it is clear that both the fungicide complexed with cyclodextrin or fungicidal/cyclodextrin derivative are in fact considered by the prior art reference as being fungicidal or active given that no other functionality, i.e. light stabilizer, antioxidant, pigment, etc is disclosed or recognized by the reference.

13. Appellants argue that only Paragraphs [0032], [0033], and [0038] of Weitzel et al address mixing, while Paragraph [0032] and [0033] do not even mention fungicides. Further Appellants argue that these paragraphs of the reference are drawn to mixing binders, thickeners, wetting agents, defoamers, and antifreeze agents and not active compounds. However, Appellants' arguments are not understood given that Paragraph [0038] of Weitzel et al discloses the following:

“[I]n order to prepare the coating compositions, the polymer a) is mixed in the form of a dispersion or powder with the other formulation ingredients b) to e) in suitable mixers, preferably without adding non-aqueous volatile solvents..”.

Attention is directed to Paragraphs [0028] and [0034] of Weitzel et al which disclose element (b) as a fungicide. In light of the disclosure in Paragraphs [0028], [0034], and [0038] it is abundantly clear that the mixing is disclosed by the reference.

Furthermore, attention is drawn to claim 43 which recites the following: a process for increasing the resistance of a cured mineral building product to microbial growth, comprising adding to a curable mineral building product compositions, a water dispersible powder composition containing at least one spray dried water redispersible polymer powder admixed with at least one solid biologically active additive...”. The redispersible polymer powder disclosed by the reference is the presently claimed “redispersible polymer composition”, and clearly the disclosed mixing of ingredients (b) through (e), not only is the powder admixed with a biocidal compound (ingredient b) but clearly the fillers, i.e. dolomite, calcite, chalk, render the composition a curable mineral building product composition as presently claimed.

14. Appellants argue that Paragraph [0038] does not disclose mixing fungicidal active with anything given that this paragraph discloses mixing of cyclodextrin complexes of fungicides with other ingredients. That is Appellants argument appears drawn to their position that the fungicide/cyclodextrin complexes are not "active". However, as discussed above, the term the cyclodextrin complexes disclosed in the Weitzel clearly encompasses “active” compounds. That is, there is nothing within the scope of the present claims or a definition provided in the Specification which excludes prior art which discloses fungicidal derivatives or complexes from being applied against the present claims. The use of the terms “active” in the context of a neat,

Art Unit: 1725

undiluted, or uncomplexed compound is conspicuous by its absence both in the instant Specification as well as claims.

The instant Specification discloses that the composition comprises biocidal compounds, i.e. biocides, or biological active additives are bactericides, fungicides and algaecides. Other than this disclosure there is no specific disclosure that Appellants' definition of a biologically active compound is a pure or unmodified compound. Furthermore, it is noted that even though the claims have been amended to recite that the redispersible polymer composition "consists of" a fungicide and a redispersible polymer, there is nothing within the scope of the present claims that excludes the use of biocidal derivatives such as the complexed derivatives disclosed in Weitzel et al. That is, the derivatives disclosed in the reference are active compound as presently claimed.

B. Rejection of claims 44-46 under 35 U.S.C. 103(a) over Weitzel in view of Botts

15. Appellants argue that the polymers disclosed by Botts are not redispersible given that the reference discloses that the polymer is not in solid form but in dissolved form. However, it is noted that Botts is utilized merely as teaching reference for its disclosure as it pertains to spray drying and active compound incorporation by spray drying polymer and active compounds. That is, Botts discloses the benefits of spray drying compositions comprising active compounds, i.e. sustained and controlled release of the active compounds.

Thus, Appellants are reminded that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an Appellants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which,

Art Unit: 1725

because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Botts is, therefore, a reasonably pertinent reference, because it teaches spray drying as a method for entrapping active ingredients in a polymer matrix in order to obtain sustained release, which is a function especially pertinent to the invention at hand.

Furthermore, it is noted that while Botts does not disclose all the features of the present claimed invention, the reference is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely benefits of spray drying processes as a method to entrap biocidal compounds for sustained and controlled release of these compounds, and in combination with the primary reference, discloses the presently claimed invention. If the secondary reference contained all the features of the present claimed invention, it would be identical to the present claimed invention, and there would be no need for secondary references.

16. Appellants state that Botts utilizes the same definition of "active" as is used the present invention, i.e. a neat fungicide. However, as discussed above, a definition as to what is encompassed by the term "active" as applied to biocidal compounds is conspicuous by its absence in the instant Specification. The instant disclosure, merely discloses that the composition comprises biocidal compounds, i.e. biocides, or biological active additives are bactericides, fungicides and algaecides. Other than this disclosure in present Specification, there

Art Unit: 1725

is neither a specific disclosure nor definition contained within the Specification itself that indicates that Appellant's definition of a active compound is a pure or unmodified compound.

17. Appellants argue that Botts adds nothing to Weitzel and is inconsistent with the reference. However, Appellants' argument is not understood given the disclosure within Weitzel itself of utilizing the spray drying process in order to obtain a RDP. Specifically, Weitzel discloses in [0023] the following:

“[T]he aqueous dispersions obtainable by the process of the invention have a solids content of from 30 to 75% by weight, preferably from 50 to 60% by weight. For preparing the water-redispersible polymer powders, the aqueous dispersions, following addition where appropriate of protective colloids as spraying aids, are dried, by means of fluidized bed drying, freeze drying or spray drying, for example. The dispersions are preferably spray dried. Spray drying is carried out in customary spray drying units, with atomization taking place by means of single-fluid, two-fluid or multifluid nozzles or with a rotating disk”.

That is, the reference explicitly discloses a process of spray drying in order to obtain the RDP. To this end, it is noted that Botts is merely utilized to teach that active ingredients such as fungicides or insecticides entrapped in a polymeric matrix to form particles. The particles when applied release active ingredients at a rate to provide effective amounts of the active ingredients over a period of time. The reference discloses method of producing the matrix particles that comprise such as spray dying so that the active ingredient a distributed uniformly throughout the polymer matrix (Page 18, Lines 5-12).

In light of the above, the Examiner's position remains given that Weitzel et al discloses a compositions comprising water re-dispersible polymers and biocidal compounds and processes to spraying drying the re-dispersible polymer, in light of the particular advantages provided by the use and control of the spraying drying a polymer matrix with active ingredients as taught by Botts et al, it would therefore have been obvious to one of ordinary skill in the art to include such sprayed dried polymer and method of production in the composition and methods disclosed by Weitzel et al in order to obtain polymer particles which have active compounds distributed uniformly throughout.

18. Appellants argue that there is no motivation to combine Botts with Weitzel et al. However, as discussed above, both Weitzel and Botts as drawn to processes of spray drying polymeric compositions. Further, Botts discloses active ingredients such as fungicides or insecticides which are entrapped in a polymeric matrix to form particles which results in the release active ingredients at a rate to provide effective amounts of the active ingredients over a period of time.

In light of disclosures in both references, it is the Examiner's position given that both references are drawn to spray drying polymer compositions and given that both reference disclose the use of active compounds, there is every reason to the teaching in Botts that incorporation of biocides into polymer particles obtained by the process of spray drying result in the release of active ingredients over a period of time as well as obtain a polymer composition such that the active ingredient a distributed uniformly throughout the polymer matrix.

In light of the above, the Examiner's position remains given that Weitzel et al discloses a compositions comprising water re-dispersible polymers and biocidal compounds and processes to spraying drying the re-dispersible polymer, in light of the particular advantages provided by the use and control of the spraying drying a polymer matrix with active ingredients as taught by Botts et al, it would therefore have been obvious to one of ordinary skill in the art to include such sprayed dried polymer and method of production in the composition and methods disclosed by Weitzel et al in order to obtain polymer particles which have active compounds distributed uniformly throughout.

19. Appellants argue that the polymers disclosed by Botts are not redispersible given that the reference discloses that the polymer is not in solid form but in dissolved form. However, it is noted that Botts is only used as teaching reference in order to teach the benefits of spraying a polymer in combination with a biocide. It is noted that the "test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference... Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art", In re Keller, 642 F.2d 413,208 USPQ 871,881 (CCPA 1981) and that "combining the teachings of references does not involve an ability to combine their specific structures", In re Nievelt, 482 F.2d 965, 179 USP 224, 226 (CCPA).

Finally, with respect to Appellants arguments that Botts discloses only two methods of uniformly distributing the active compound in the polymer - in the first method the polymer and active are dissolved and the solvent is remove while in the second the polymer is melted and the active is dissolve or dispersed therein, with both method requiring the polymer to be in liquid

Art Unit: 1725

form. However, attention is drawn to Col. 18 Lines 5-12 disclose that the polymer particles can be produced by any process that result in a polymer matrix having active ingredients substantially distributed thereof including but not limited to solvent evaporation. To this end, attention is drawn to Paragraph [0023] of Weitzel which discloses processes of solvent removal, i.e. drying, including spray drying in order to remove solvent from the composition. Further, it is noted that although Botts does disclose preferred method of forming trapping the active ingredient in the polymer matrix, i.e. dissolving or melting the polymer, this does not limit the processes of incorporation of the active ingredient to only these two processes alone.

Further, it is noted that Botts discloses in Col. 5 (Lines 10-20) that “[a] further embodiment of the present invention provides a method of producing a particle wherein the particle comprises a triazole fungicide in a polymer matrix, the method comprising the steps of providing a hydrophobic solution comprising a triazole fungicide, a polymer, and a solvent; mixing the hydrophobic solution and an aqueous medium to produce a dispersion of droplets of the hydrophobic solution in the aqueous medium; and evaporating the solvent from the dispersion to produce a particle comprising a triazole fungicide in a polymer matrix”.

Attention is drawn to Col. 8 Lines 16-20 of Botts which defines the terms "matrix" as "[m]atrix is defined as a surrounding material in which another material is entrapped, embedded, dissolved, dispersed or otherwise distributed. Particles of the present invention comprise a matrix that includes one or more polymers in which one or more active ingredients are entrapped, embedded, dissolved, dispersed, or otherwise distribute”. Thus, from both these disclosures in Botts, it is clear that the polymer need not necessarily be dissolved to form the matrix, rather the matrix merely needs to entrap or other distribute the fungicidal material.

20. Appellants argue that there is no teaching or suggestion to replace the cyclodextrin complexes disclosed by Weitzel with the time release polymer particles disclosed by Botts. However, it is not the Examiner's position to replace the cyclodextrin complexes disclosed by Weitzel with the polymer particles disclosed by Botts. Rather, it is the Examiner's position given that both references are drawn to spray dried polymer compositions as well as biocidal compounds, that it would have been obvious to one of ordinary skill in the art to utilize the method of spray drying as a method of incorporating the complexed fungicides disclosed in Weitzel with the RDP disclosed in the reference as a method of obtaining sustained or prolonged release in addition to uniformly dispersing the biocide within or throughout the polymer particles.

21. In response to Appellants' argument that Botts is nonanalogous art, it has been held that a prior art reference must either be in the field of Appellant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the Appellant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Botts and Weitzel are drawn to compositions containing biocides as well as methods of spray drying. Further it is noted that Botts et al discloses active ingredients such as fungicides or insecticides which are entrapped in a polymeric matrix to form particles. The particles when applied release active ingredients at a rate to provide effective amounts of the active ingredients over a period of time. The reference

Art Unit: 1725

discloses method of producing the matrix particles that comprise such as spray drying so that the active ingredient is distributed uniformly throughout the polymer matrix.

Given that Weitzel et al discloses a composition comprising water re-dispersible polymers and biocidal compounds and processes to spraying drying the re-dispersible polymer, in light of the particular advantages provided by the use and control of the spraying drying a polymer matrix with active ingredients as taught by Botts et al, it would therefore have been obvious to one of ordinary skill in the art to include such sprayed dried polymer and method of production in the composition and methods disclosed by Weitzel et al in order to obtain polymer particles which have active compounds distributed uniformly throughout.

22. In response to Appellant's argument that there is another reason for utilizing the process of spray drying, it is noted that the fact that Appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Furthermore, "obviousness under 103 is not negated because the motivation to arrive at the claimed invention as disclosed by the prior art does not agree with appellant's motivation", *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1990), *In re Tomlinson*, 150 USPQ 623 (CCPA 1966).

The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by Appellant. See, e.g., *In re Kahn*, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed.Cir. 2006);

Art Unit: 1725

Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1323, 76 USPQ2d 1662,1685 (Fed. Cir. 2005); In re Linter, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972) (discussed below); In re Dillon, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), cert. denied, 500 U.S. 904 (1991).

C. **Rejection of claims 49, 34-42, 47-48 and 50-51 over Guerin in view of Weitzel**

23. Appellants argue that Guerin does not disclose amount of biocide which can be incorporated into the disclosed composition. It is agreed that the reference does not disclose amount of active compounds to be utilized in the composition. It is for this reason that the claims were rejected over a combination of reference Guerin in view Weitzel; with the amount of active compound being disclosed by Weitzel. That is, the Examiner has set forth that Weitzel et al discloses a compositions comprising a water-redispersible polymer powder and biocides, i.e., fungicides. Fungicides comprise 0.001 to 0.2 wt % of the composition. Based on the discloses amount of pigment (1 to 30 wt %), filler (5 to 80 wt %), and fungicide, it is determined that redispersible polymer powder comprising 18.99 to 64.8 wt % of the composition. Hence, it is determined that fungicide is 0.005 to 0.3 wt % based on the mount of polymer.

Regarding the amount of fungicide disclosed by Weitzel, it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See In re Harris, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); In

Art Unit: 1725

re Peterson, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); In re Woodruff, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); In re Malagari, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974). In light of the amount of active compound disclosed by Weitzel et al, it would therefore have been obvious to one of ordinary skill in the art to utilize the amount of active compound disclosed by Weitzel in the composition disclosed by Guerin et al with a reasonable expectation of success.

24. Appellants argue that Weitzel teaches away from the use of fungicidal actives themselves by requiring the fungicides to be supplied as a cyclodextrin complex. However, firstly it is noted, as discussed above, Weitzel et al does not teach away from the use of active compounds. Rather the reference discloses fungicides as being either complexes with cyclodextrin or cyclodextrin derivatives. The reference does not disclose the fungicides, be they complexed with cyclodextrin or derivatives thereof, as possessing any other functionality other than being fungicidal. That is, it is clear that both the fungicide complexed with cyclodextrin or fungicidal/cyclodextrin derivative are in fact considered by the prior art reference as being fungicidal or active given that no other functionality, i.e. light stabilizer, antioxidant, pigment, etc is disclosed or recognized by the reference.

25. Appellants' arguments regarding unexpected results regarding the biocidal activity of the present invention, i.e., a biocide incorporated into the dry water re-dispersible polymer added to compositions as compared to adding the biocide and water re-dispersible polymer separately to compositions are not found to be persuasive for the following reasons. Inventive Examples 1

Art Unit: 1725

and 2 comprise 22.5 and 10.5 ppm of N-octylisothiazolinone while Comparative Example 4 comprises a larger concentration (225 ppm) of the same biocidal ingredient, it is noted that the comparison of Inventive Examples 1 and 2 to Comparative Example 4 is not a proper side-by-side comparison, i.e., the amount of biocide in both the comparative and inventive examples (either 1 or 3) would have to be identical. Additionally, it is noted that Comparative Example 4 discloses that after 9 and 12 months respectively a “small amounts of growth” was observed (as designated by the “+” symbol) while Inventive Examples 1 and 2 displayed no growth (as designated by the “0” symbol). While the Appellant’s definition of “zero growth” is clear, the definition of a “small amount of growth”, are not, i.e. how much does “small growth” differ from no growth.

The present claims disclose that the composition comprises a generic re-dispersible polymer and a biocide. However, the Examples comprise a specific biocide and polymer, namely N-octylisothiazolinone and a copolymer of vinyl acetate and ethylene. As such the inventive Examples are not commensurate with the scope of the present claims. Furthermore, it is noted that the present claims recite that the biocide comprises 0.001 to 0.1 % of the polymer, while the inventive examples comprise 0.00105 to 0.00225 % of a biocide. As set forth in MPEP 716.02(d), whether unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, “objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support”. In other words, the showing of unexpected results must be reviewed to see if the results occurred over the entire claimed range, *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980).

Art Unit: 1725

Appellants have not provided data to show that the unexpected results do in fact occur over the entire claimed range of biocide.

It is noted that even if the data presented in the 37 C.F.R. 1.132 Declaration did not contain the deficiencies discussed above the Declaration would further not be found persuasive for the following reasons: Appellants argue that the additional examples presented in the Declaration containing different vinyl polymers are sufficient to encompass all RDP polymers. However, it is Examiner's position given that the present claims are drawn to a generic RDP, that the additional vinyl polymer disclosed in the Declaration are not representative of all polymers which are encompassed by the term RDP.

Further, it is significant to note that the Comparative and Inventive Examples in the present Specification have identical biocidal activity at three months. i.e. both the inventive and comparative compositions yield a result of "0" or no growth. To this end, attention is drawn to the present claims which do not recite any limitations drawn to the time frame for the biocidal activity of the claimed composition.

26. Finally, regarding and the rejection of claim 43 under 35 U.S.C. 102 (b) as cited in MPEP 706.02(b), it is noted that a rejection based on 35 USC 102(b), can only be overcome by (a) persuasively arguing that the claims are patentably distinguishable from the prior art, (b) amending the claims to patentably distinguish over the prior art, or (c) perfecting priority under 35 USC 119(e) or 120. As can be seen, comparative data is not sufficient to overcome an anticipatory rejection under 102(b).

Art Unit: 1725

(11) Related Proceeding(s) Appendix

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Alexander C Kollias/

Examiner, Art Unit 1725

/Basia Ridley/

Supervisory Patent Examiner, Art Unit 1725

Conferees:

Mark Eashoo

/Mark Eashoo/

Supervisory Patent Examiner, Art Unit 1767

/B. R./

Supervisory Patent Examiner, Art Unit 1725